



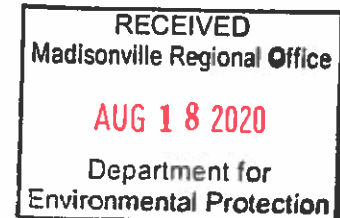
One US Bank Plaza  
St. Louis, MO 63101

314 552 6000 main  
314 552 7000 fax  
thompsoncoburn.com

Joseph M. Kellmeyer  
314 552 6166 direct  
jkellmeyer@thompsoncoburn.com

August 12, 2020

Division of Waste Management  
Madisonville Regional Office  
Attn: Curtis Scott  
625 Hospital Dr.  
Madisonville, KY 42431



Re: Notice of Violation  
Ensign-Bickford Aerospace & Defense Co.  
AI ID: 40689 / Activity ID: ENV20200002

Dear Curtis:

Ensign-Bickford Aerospace & Defense Co. ("Ensign-Bickford") has received, and by this letter is responding to, the Notice of Violation ("NOV") issued by the Department on July 31, 2020. Pursuant to your request, information relating to remedial measures taken by Ensign-Bickford with respect to each of the alleged violations is provided below.

Nothing in this letter should be deemed an admission of or waiver of defenses to any of the violations alleged by the Department in its July 31, 2020 NOV, or of any other federal or state statute or regulation.

### **Background**

Ensign-Bickford is a global leader of mission critical hardware and systems solutions including precision energetic systems and innovative explosive solutions. As a result of its operations, Ensign-Bickford generates various waste materials that are packaged, segregated, characterized, labeled, managed and stored prior to transportation for off-site disposal or recycling. Ensign-Bickford strives to manage all materials as safely as possible—operating free of accidents and injuries has long been part of Ensign-Bickford's vision.

Ensign-Bickford acknowledges and understands the importance of regulatory compliance and is dedicated to ensuring that all of its facilities fully comply with their regulatory and permit requirements. To this end, Ensign-Bickford has established policies, procedures, and guidelines designed to educate, train, and instruct its employees in proper materials handling and management.

### **Remedial Measures Taken by Ensign-Bickford**

1. Alleged violation of hazardous waste determination provisions [40 CFR 262.11, 401 KAR 39:080 Section 1(1)]

**REMEDIAL MEASURE:** Ensign-Bickford acknowledges and understands its responsibility to make an accurate and timely waste determination that represents the waste being managed.

2. Alleged violation of hazardous waste transportation and manifesting requirements [40 CFR 262.20(a)(1), 401 KAR 39:080 Section 1(1)]

**REMEDIAL MEASURE:** Ensign-Bickford acknowledges and understands its responsibility to include all applicable Hazardous Waste codes on waste manifests prepared for off-site transportation and disposal. Immediately after receiving the Department's NOV, Ensign Bickford contacted both Clean Earth and Green America, the facilities that received waste initially believed to be GAP Solvent Waste (MGT-17526), to inform them of the hazards and characteristics of the wastes shipped from Ensign-Bickford to Clean Earth on 3/19/2020 (and later shipped from Clean Earth to Green America). Copies of the communication (which was delivered by electronic and first class mail) were also provided to the Madisonville Regional Office; however, additional courtesy copies are attached.

3. Alleged violation of hazardous waste labeling requirements [40 CFR 262.17(a)(5)i, 401 KAR 39:080 Section 1(1)]

**REMEDIAL MEASURE:** Ensign-Bickford acknowledges and understands its responsibility to mark and/or affix labels to waste containers indicating the hazards associated with the waste material.

Should you have any questions or need any additional information, please feel free to contact me.

Sincerely,

Thompson Coburn LLP



By  
Joseph M. Kellmeyer  
Partner

Enclosure



One US Bank Plaza  
St. Louis, MO 63101

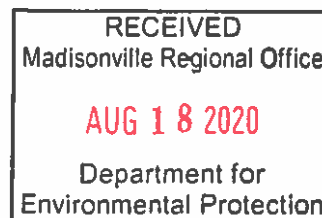
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Joseph M. Kellmeyer  
314 552 6166 direct  
jkellmeyer@thompsoncoburn.com

**VIA ELECTRONIC & FIRST CLASS MAIL**

August 3, 2020

James C. Morris  
Gordon & Rees Scully Mansukhani  
211 N. Broadway, Suite 2150  
St. Louis, MO 63102  
[jmorris@grsm.com](mailto:jmorris@grsm.com)



**Re: Shipment of Material Identified as GAP Solvent Waste from Ensign-Bickford to Clean Earth of Calvert City—Notice of Characteristics and Hazards**

Dear James:

Our firm represents Ensign-Bickford Aerospace & Defense Company ("Ensign-Bickford"). We understand that your firm represents Clean Earth of Calvert City and as a result, we are addressing this notice to you.

On or about March 19, 2020, Ensign-Bickford sent six (6) drums of material identified as GAP Solvent Waste, MGT-17526 to Clean Earth of Calvert City ("Clean Earth") under manifest # 006060890 GBF (line 1 under section 9b of the attached manifest—RQ, UN 1993, Waste Flammable liquids, n.o.s. (Isobutyl Isobutyrate), 3, PG-11 (GAP Solvent Waste)).

We have been advised that five (5) of those drums were transported from the Clean Earth facility to Green America Recycling (GAR) in Hannibal, Missouri but that one (1) drum of material may remain at the Clean Earth facility.

Please take notice that the drums identified on the manifest as containing GAP Solvent Waste, MGT-17526 contained either **GAP-5527 Polyol** or **GAP-0700 Plasticizer**. The Safety Data Sheet for GAP-5527 Polyol classifies the material as "**Explosive: Division 1.3**" (Section 2.1 Hazard classification) and "**Explosive; fire, blast or projection hazard**" (Section 2.2 Hazard Statements). The Material Safety Data Sheet for GAP-700 Plasticizer notes that the material is "**Explosive when dry. Unstable.**" (Section 3.1 Emergency Overview).

The full list of hazards and other information for GAP-5527 Polyol and GAP-0700 Plasticizer can be found on the attached Safety Data Sheets, provided for Clean Earth's reference and use.

Should you have any questions concerning this notice, please feel free to contact me.

August 3, 2020  
Page 2

Sincerely,

Thompson Coburn LLP

A handwritten signature in black ink that reads "Joseph M. Kellmeyer". The signature is written in a cursive style with a large, stylized "J" and "K".

By

Joseph Kellmeyer  
Partner

Enclosures

cc: Division of Waste Management  
Madisonville Regional Office  
Attn: Curtis Scott  
625 Hospital Dr.  
Madisonville, KY

Please print or type.

Form Approved. OMB No. 2050-0039

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number <b>KYR000032102</b>		2. Page 1 of 1		3. Emergency Response Phone <b>(412) 942-9241</b>		4. Manifest Tracking Number <b>006060890 GBF</b>									
		5. Generator's Name and Mailing Address <b>Ensign-Bickford Aerospace &amp; Defense 270-377-3200 PO Box 219; Attn: Brent Kelley Graham, KY 42344</b>		Generator's Site Address (if different than mailing address) <b>Ensign-Bickford Aerospace &amp; Defense State Route 175 Graham, KY 42344</b>													
6. Transporter 1 Company Name <b>American Transportation Solutions, LLC</b>		U.S. EPA ID Number <b>PAR000521740</b>															
7. Transporter 2 Company Name		U.S. EPA ID Number															
8. Designated Facility Name and Site Address <b>Clean Earth of Calvert City 270-805-2105 1688 Shar-Cal Road Calvert City, KY 42029</b>		U.S. EPA ID Number <b>KYD985073106</b>															
Facility's Phone:																	
9a. HM		9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))				10. Containers No. Type		11. Total Quantity		12. Unit Wt./Vol.		13. Waste Codes					
X		1. <b>RQ, UN1093, Waste Flammable liquids, n.o.s. (Isobutyl Isobutyrate), 3, PG-II (GAP Solvent Waste)</b>				6 DM		1424		P		D001					
X		2. <b>UN2810, Waste Toxic, liquids, organic, n.o.s. (Hexamethylene-1,6-Diisocyanate), 6.1, PG-III (Desmodur N 3200)</b>				3 DF		126		P		D003					
X		3. <b>UN3284, Waste Corrosive liquid, acidic, inorganic, n.o.s. (Hydrochloric Acid, Nitric Acid), 8, PG-II</b>				1 DM		313		P		D002					
4																	
4. Special Handling Instructions and Additional Information <b>1. ERG#153 - MGT-23874 - DESMODUR N 3200</b> <b>2. ERG#153 - MGT-23874 - DESMODUR N 3200</b> <b>3. ERG#154 - MGT-23865 - WASTE ACID</b>																	
15. <b>GENERATOR'S/OFFEROR'S CERTIFICATION:</b> I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.																	
Generator's/Officer's Printed/Typed Name <b>J. Brent Kelley</b>										Month Day Year <b>3 19 20</b>							
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____ Transporter signature (for exports only): _____																	
17. Transporter Acknowledgment of Receipt of Materials																	
Transporter 1 Printed/Typed Name <b>Joe Moreland</b>										Signature <b>Joe Moreland</b>				Month Day Year <b>12 31 19 20</b>			
Transporter 2 Printed/Typed Name										Signature				Month Day Year			
18. Discrepancy																	
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection Manifest Reference Number: _____																	
18b. Alternate Facility (or Generator)										U.S. EPA ID Number							
Facility's Phone:																	
18c. Signature of Alternate Facility (or Generator)										Month Day Year							
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)																	
1. <b>H41</b>				2. <b>H41</b>				3. <b>H41</b>				4.					
20. Designated Facility Owner or Operator Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18b																	
Printed/Typed Name <b>Mike Murrell</b>										Signature <b>Mike Murrell</b>				Month Day Year <b>3 20 20</b>			



## Safety Data Sheet

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**Document Group:** 06-5156-2  
**Issue Date:** 03/24/16

**Version Number:** 28.01  
**Supersedes Date:** 07/25/14

### SECTION 1: Identification

#### 1.1. Product identifier

3M™ Glycidyl Azide Polymer GAP-5527 Polyol

#### Product Identification Numbers

98-0211-7378-0, 98-0211-7379-8, 98-0212-3198-4, 98-0212-3665-2, 98-0212-3666-0, 98-0212-3667-8, 98-0213-3140-4

#### 1.2. Recommended use and restrictions on use

##### Recommended use

Binder

#### 1.3. Supplier's details

**MANUFACTURER:** 3M  
**DIVISION:** Advanced Materials Division  
**ADDRESS:** 3M Center, St. Paul, MN 55144-1000, USA  
**Telephone:** 1-888-3M HELPS (1-888-364-3577)

#### 1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

### SECTION 2: Hazard identification

#### 2.1. Hazard classification

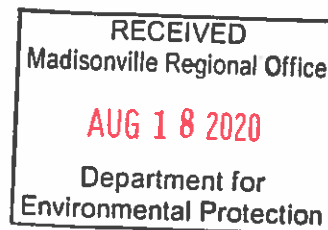
Explosive: Division 1.3.

#### 2.2. Label elements

**Signal word**  
Danger

**Symbols**  
Exploding bomb

**Pictograms**



**Hazard Statements**

Explosive; fire, blast or projection hazard.

**Precautionary Statements****Prevention:**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Ground/bond container and receiving equipment.  
Do not subject to grinding/shock or friction.  
Wear eye/face protection.

**Response:**

Explosion risk in case of fire.  
DO NOT fight fire when fire reaches explosives.  
In case of fire: Evacuate area.

**Storage:**

Store in accordance with applicable local/regional/national/international regulations.

**Disposal:**

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

**2.3. Hazards not otherwise classified**

None.

80% of the mixture consists of ingredients of unknown acute oral toxicity.

**SECTION 3: Composition/information on ingredients**

Ingredient	C.A.S. No.	% by Wt
Glycidyl Azide Polymer Triol	183130-94-1	80
Glycidyl Azide Polymer Diol	183130-95-2	20

**SECTION 4: First aid measures****4.1. Description of first aid measures****Inhalation:**

No need for first aid is anticipated.

**Skin Contact:**

No need for first aid is anticipated.

**Eye Contact:**

No need for first aid is anticipated.

**If Swallowed:**

Rinse mouth. If you feel unwell, get medical attention.

**4.2. Most important symptoms and effects, both acute and delayed**

See Section 11.1. Information on toxicological effects.

**4.3. Indication of any immediate medical attention and special treatment required**

Not applicable

## SECTION 5: Fire-fighting measures

**5.1. Suitable extinguishing media**

Refer to other precautionary advice in SDS section 5.

**5.2. Special hazards arising from the substance or mixture**

Explosion risk in case of fire.

**Hazardous Decomposition or By-Products**

<u>Substance</u>	<u>Condition</u>
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Cyanide	During Combustion
Oxides of Nitrogen	During Combustion
Toxic Vapor, Gas, Particulate	During Combustion

**5.3. Special protective actions for fire-fighters**

DO NOT fight fire when fire reaches explosives. In case of fire: Evacuate area.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

**6.2. Environmental precautions**

Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

**6.3. Methods and material for containment and cleaning up**

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**

Avoid skin contact with hot material. For industrial or professional use only. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not subject to grinding/shock or friction. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Wear low static or properly grounded shoes. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer.



**7.2. Conditions for safe storage including any incompatibilities**

Store in accordance with applicable local/regional/national/international codes and/or regulations.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Occupational exposure limits**

No occupational exposure limit values exist for any of the components listed in Section 3 of this SDS.

**8.2. Exposure controls****8.2.1. Engineering controls**

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

**8.2.2. Personal protective equipment (PPE)****Eye/face protection**

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Full Face Shield

Indirect Vented Goggles

**Skin/hand protection**

No chemical protective gloves are required.

**Respiratory protection**

Respiratory protection is not required.

**Thermal hazards**

Wear heat insulating gloves when handling hot material to prevent thermal burns.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

<b>General Physical Form:</b>	Liquid
<b>Odor, Color, Grade:</b>	Amber liquid, little odor.
<b>Odor threshold</b>	No Data Available
<b>pH</b>	Not Applicable
<b>Boiling Point</b>	>=170 °C [Details: Decomposes above 170C]
<b>Flash Point</b>	>=230 °F [Test Method: Closed Cup] [Details: Explosive, does not flash up to 230F - but easy to ignite with flame contact.]
<b>Evaporation rate</b>	Nil [Ref Std: BUOAC=1]
<b>Flammability (solid, gas)</b>	Not Applicable
<b>Flammable Limits(LEL)</b>	No Data Available
<b>Flammable Limits(UEL)</b>	No Data Available
<b>Vapor Pressure</b>	Negligible
<b>Density</b>	1.3 g/ml
<b>Specific Gravity</b>	1.3 [Ref Std: WATER=1]
<b>Solubility in Water</b>	Negligible

Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	No Data Available
Autoignition temperature	170 °C
Decomposition temperature	No Data Available
Viscosity	15,000 centipoise [ @ 25 °C ]
Volatile Organic Compounds	< 3 g/l [ Test Method: calculated SCAQMD rule 443.1 ]
Percent volatile	Approximately 0.02 %
VOC Less H2O & Exempt Solvents	< 3 g/l [ Test Method: calculated SCAQMD rule 443.1 ]

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

### 10.2. Chemical stability

Stable. Do not heat over 100 C.

### 10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

### 10.4. Conditions to avoid

Sparks and/or flames

### 10.5. Incompatible materials

Not determined

### 10.6. Hazardous decomposition products

#### Substance

None known.

#### Condition

Refer to section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

### 11.1. Information on Toxicological effects

#### Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

#### Inhalation:

No health effects are expected.

#### Skin Contact:

Contact with the skin during product use is not expected to result in significant irritation.

#### Eye Contact:

Contact with the eyes during product use is not expected to result in significant irritation.

#### Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

#### Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

#### Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Glycidyl Azide Polymer Diol	Dermal		LD50 estimated to be > 5,000 mg/kg
Glycidyl Azide Polymer Diol	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

#### Skin Corrosion/Irritation

Name	Species	Value
Glycidyl Azide Polymer Diol	Rabbit	No significant irritation

#### Serious Eye Damage/Irritation

Name	Species	Value
Glycidyl Azide Polymer Diol	Rabbit	No significant irritation

#### Skin Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

#### Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

#### Germ Cell Mutagenicity

For the component/components, either no data are currently available or the data are not sufficient for classification.

#### Carcinogenicity

For the component/components, either no data are currently available or the data are not sufficient for classification.

#### Reproductive Toxicity

##### Reproductive and/or Developmental Effects

For the component/components, either no data are currently available or the data are not sufficient for classification.

#### Target Organ(s)

##### Specific Target Organ Toxicity - single exposure

For the component/components, either no data are currently available or the data are not sufficient for classification.

##### Specific Target Organ Toxicity - repeated exposure

For the component/components, either no data are currently available or the data are not sufficient for classification.

#### Aspiration Hazard

For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

## SECTION 12: Ecological information

### Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

### Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable), D003 (Reactive)

## SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

## SECTION 15: Regulatory information

### 15.1. US Federal Regulations

Contact 3M for more information.

#### 311/312 Hazard Categories:

Fire Hazard - Yes   Pressure Hazard - Yes   Reactivity Hazard - Yes   Immediate Hazard - Yes   Delayed Hazard - No

### 15.2. State Regulations

Contact 3M for more information.

### 15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

### 15.4. International Regulations

This material contains one or more ingredients that may be regulated by the International Traffic in Arms Regulation (ITAR), an export control of US military technology and chemicals. Prior to export of this material or any product containing this material, determine whether a proper license from the Department of State must be obtained. See 22CFR 120-130 for any specific requirements.

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

## SECTION 16: Other information

### NFPA Hazard Classification

Health: 0 Flammability: 1 Instability: 3 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

### HMIS Hazard Classification

Health: 0 Flammability: 1 Physical Hazard: 3 Personal Protection: X - See PPE section.

Hazardous Material Identification System (HMIS® IV) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® IV ratings are to be used with a fully implemented HMIS® IV program. HMIS® is a registered mark of the American Coatings Association (ACA).

Document Group: 06-5156-2  
Issue Date: 03/24/16

Version Number: 28.01  
Supersedes Date: 07/25/14

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## Material Safety Data Sheet

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### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** GAP-0700 3M(TM) GAP Plasticizer  
**MANUFACTURER:** 3M  
**DIVISION:** 3M Specialty Materials

**ADDRESS:** 3M Center  
St. Paul, MN 55144-1000

**EMERGENCY PHONE:** 1-800-364-3577 or (651) 737-6501 (24 hours)

**Issue Date:** 01/20/2003  
**Supersedes Date:** 12/14/1999

**Document Group:** 07-7903-3

**Product Use:**  
**Specific Use:** Binder

### SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
GLYCIDYL AZIDE POLYMER (NON-FUNCTIONAL) +(6149P)	Trade Secret	100
XYLENE	1330-20-7	< 0.1

New Jersey Trade Secret Registry Number (EIN) 04499600-+.

### SECTION 3: HAZARDS IDENTIFICATION

#### 3.1 EMERGENCY OVERVIEW

**Odor, Color, Grade:** Amber liquid, slight odor.

**General Physical Form:** Liquid

**Immediate health, physical, and environmental hazards:** Explosive when dry. Unstable.

May cause target organ effects.

#### 3.2 POTENTIAL HEALTH EFFECTS

**Eye Contact:**

Mild Eye Irritation: Signs/symptoms may include redness, pain, and tearing.

**Skin Contact:**

Delayed Dermal Irritation: Signs/symptoms may include localized redness, swelling, itching, and pain. These effects may not appear immediately following exposure.

**Inhalation:**

No information available.

**Ingestion:**

May be absorbed following ingestion and cause target organ effects.

**Target Organ Effects:**

Gastrointestinal Effects: Signs/symptoms may include stomach upset; nausea, vomiting and diarrhea.

### 3.3 POTENTIAL ENVIRONMENTAL EFFECTS

**BIODEGRADATION:**

7-Day Biochemical Oxygen Demand (BOD7): Nil

## SECTION 4: FIRST AID MEASURES

### 4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

**Eye Contact:** Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

**Skin Contact:** Wash affected area with soap and water. If signs/symptoms develop, get medical attention.

**Inhalation:** Remove person to fresh air. If signs/symptoms develop, get medical attention.

**If Swallowed:** Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

## SECTION 5: FIRE FIGHTING MEASURES

### 5.1 FLAMMABLE PROPERTIES

Autoignition temperature  
Flash Point  
Flammable Limits - LEL  
Flammable Limits - UEL

*No Data Available*  
> 100 °C [Test Method: Closed Cup] [Details: Explosive]  
*No Data Available*  
*No Data Available*

### 5.2 EXTINGUISHING MEDIA

Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

### 5.3 PROTECTION OF FIRE FIGHTERS

**Special Fire Fighting Procedures:** Water may be used to blanket the fire. Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

**Unusual Fire and Explosion Hazards:** Explosive when dry. EXPLOSIVE B - If ignited, will burn rapidly releasing large amounts of gas.

**Note:** See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Accidental Release Measures:** Refer to other sections of this MSDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment. Call 3M-HELPS line (1-800-364-3577) for more information on handling and managing the spill. Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Ventilate the area with fresh air. Contain spill. Avoid contact with incompatible materials listed in the Reactivity Data Section. Cover with absorbent material. Collect as much of the spilled material as possible. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and MSDS. Collect the resulting residue containing solution. Place in an approved metal container. Dispose of collected material as soon as possible.

**In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.**

## SECTION 7: HANDLING AND STORAGE

### 7.1 HANDLING

For industrial or professional use only. Do not heat to dryness or allow to dry to prevent explosion. Avoid eye contact with vapors, mists, or spray. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Avoid skin contact with hot material. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits. If ventilation is not adequate, use respiratory protection equipment.

### 7.2 STORAGE

Keep container tightly closed. Store away from heat. Store out of direct sunlight. Store away from flammable and combustible



materials.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 ENGINEERING CONTROLS

Provide appropriate local exhaust when product is heated.

### 8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

#### 8.2.1 Eye/Face Protection

Avoid eye contact.

The following eye protection(s) are recommended: Indirect Vented Goggles.

#### 8.2.2 Skin Protection

Avoid skin contact. Avoid skin contact with hot material. Wear appropriate gloves, such as Nomex, when handling this material to prevent thermal burns.

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

Gloves made from the following material(s) are recommended: Fluoroelastomer (Viton), Polyethylene/Ethylene Vinyl Alcohol.

#### 8.2.3 Respiratory Protection

Avoid breathing of vapors, mists or spray. Use a positive pressure supplied-air respirator if there is a potential for exposure from an uncontrolled release, exposure levels are not known, or under any other circumstances where air-purifying respirators may not provide adequate protection.

Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half facepiece or fullface supplied-air respirator. Consult the current 3M Respiratory Selection Guide for additional information or call 1-800-243-4630 for 3M technical assistance.

#### 8.2.4 Prevention of Swallowing

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

### 8.3 EXPOSURE GUIDELINES

<u>Ingredient</u>	<u>Authority</u>	<u>Type</u>	<u>Limit</u>	<u>Additional Information</u>
XYLENE	ACGIH	TWA	100 ppm	Table A4
XYLENE	ACGIH	STEL	150 ppm	Table A4
XYLENE	OSHA	TWA	100 ppm	Table Z-1A
XYLENE	OSHA	STEL	150 ppm	Table Z-1A

#### SOURCE OF EXPOSURE LIMIT DATA:

ACGIH: American Conference of Governmental Industrial Hygienists

CMRG: Chemical Manufacturer Recommended Guideline

OSHA: Occupational Safety and Health Administration

AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Odor, Color, Grade:

Amber liquid, slight odor.

<b>General Physical Form:</b>	Liquid
<b>Autoignition temperature</b>	<i>No Data Available</i>
<b>Flash Point</b>	> 100 °C [ <i>Test Method:</i> Closed Cup] [ <i>Details:</i> Explosive]
<b>Flammable Limits - LEL</b>	<i>No Data Available</i>
<b>Flammable Limits - UEL</b>	<i>No Data Available</i>
<b>Boiling point</b>	> 100 °C
<b>Density</b>	1.24 g/ml
<b>Vapor Density</b>	> 1 [ <i>Ref Std:</i> AIR=1]
<b>Vapor Pressure</b>	Negligible
<b>Specific Gravity</b>	Approximately 1.24 [ <i>Ref Std:</i> WATER=1]
<b>pH</b>	<i>Not Applicable</i>
<b>Melting point</b>	Approximately -40 °C
<b>Solubility in Water</b>	Negligible
<b>Evaporation rate</b>	Negligible
<b>Volatile Organic Compounds</b>	<i>No Data Available</i>
<b>Percent volatile</b>	Negligible
<b>VOC Less H2O &amp; Exempt Solvents</b>	<i>No Data Available</i>
<b>Viscosity</b>	Approximately 150 centipoise

## SECTION 10: STABILITY AND REACTIVITY

**Stability:** Unstable.

**Materials and Conditions to Avoid:** Sparks and/or flames; Explosive when dry.

Hot surfaces - over 150 °C

**Hazardous Polymerization:** Hazardous polymerization will not occur.

### Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Oxides of Nitrogen	During Combustion
Toxic Vapor, Gas, Particulate	During Combustion

## SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

## SECTION 12: ECOLOGICAL INFORMATION

### ECOTOXICOLOGICAL INFORMATION

Not determined.

## CHEMICAL FATE INFORMATION

Not determined.

## SECTION 13: DISPOSAL CONSIDERATIONS

**Waste Disposal Method:** Incinerate in a permitted hazardous waste incinerator in the presence of a combustible material. As a disposal alternative, dispose of waste product in a permitted hazardous waste facility.

**WARNING:** To reduce risk of explosive evolution of gas when burning this material, dilute with at least 3 parts of a solvent, such as acetone, to one part GAP-0700. U.S. EPA Hazardous Waste Number of acetone mixture = D001 (Ignitable)

**EPA Hazardous Waste Number (RCRA):** D003 (Reactive)

Since regulations vary, consult applicable regulations or authorities before disposal.

## SECTION 14: TRANSPORT INFORMATION

**ID Number(s):**

98-0211-9339-0, 98-0211-9340-8, 98-0212-1029-3

Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.

## SECTION 15: REGULATORY INFORMATION

### US FEDERAL REGULATIONS

Contact 3M for more information.

**311/312 Hazard Categories:**

Fire Hazard - No    Pressure Hazard - No    Reactivity Hazard - Yes    Immediate Hazard - No    Delayed Hazard - No

### STATE REGULATIONS

Contact 3M for more information.

### CHEMICAL INVENTORIES

The components of this product are in compliance with the chemical notification requirements of TSCA.

All applicable chemical ingredients in this material are listed on the European Inventory of Existing Chemical Substances (EINECS), or are exempt polymers whose monomers are listed on EINECS.

Contact 3M for more information.

## INTERNATIONAL REGULATIONS

This material contains one or more ingredients that may be regulated by the International Traffic in Arms Regulation (ITAR), an export control of US military technology and chemicals. Prior to export of this material or any product containing this material, determine whether a proper license from the Department of State must be obtained. See 22CFR 120-130 for any specific requirements.

Contact 3M for more information.

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

## SECTION 16: OTHER INFORMATION

### NFPA Hazard Classification

Health: 1 Flammability: 1 Reactivity: 3 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

### HMIS Hazard Classification

Health: 1 Flammability: 1 Reactivity: 3 Protection: X - See PPE section.

Hazardous Material Identification System (HMIS(r)) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS(r) ratings are to be used with a fully implemented HMIS(r) program. HMIS(r) is a registered mark of the National Paint and Coatings Association (NPCA).

**Reason for Reissue:** The MSDS has been revised because 3M has adopted the 16-section ANSI/ISO format. The potential hazards of the product have not changed. We encourage you to reread the MSDS and review the information.

No revision information is available.

**DISCLAIMER:** The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY

OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

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**3M MSDSs are available at [www.3M.com](http://www.3M.com)**



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314 552 6000 main  
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Joseph M. Kellmeyer  
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jkellmeyer@thompsoncoburn.com

**VIA ELECTRONIC & FIRST CLASS MAIL**

August 3, 2020

Green America Recycling  
Attn: Angela Dillman  
10107 Highway 79  
Hannibal, MO 63401  
[Angela.dillman@greenamericarecycling.com](mailto:Angela.dillman@greenamericarecycling.com)

**Re: Shipment of Material Identified as GAP Solvent Waste—Notice of Characteristics and Hazards**

Dear Angela:

My firm represents Ensign-Bickford Aerospace & Defense Company ("Ensign-Bickford"). The purpose of this letter is to provide Green America Recycling ("GAR") with information relating to the hazards and characteristics of certain material shipped to your facility by Clean Earth of Calvert City in March 2020.

On or about March 19, 2020, Ensign-Bickford sent six (6) drums of material identified as GAP Solvent Waste, MGT-17526 (RQ, UN 1993, Waste Flammable liquids, n.o.s. (Isobutyl Isobutyrate), 3, PG-11 (GAP Solvent Waste)) to Clean Earth of Calvert City ("Clean Earth"). We have been advised that five (5) of those drums were transported from the Clean Earth facility to GAR in Hannibal, Missouri.

Please take notice that the drums identified on the manifest as containing GAP Solvent Waste, MGT-17526 contained either **GAP-5527 Polyol** or **GAP-0700 Plasticizer**. The Safety Data Sheet for GAP-5527 Polyol classifies the material as "**Explosive: Division 1.3**" (Section 2.1 Hazard classification) and "**Explosive; fire, blast or projection hazard**" (Section 2.2 Hazard Statements). The Material Safety Data Sheet for GAP-700 Plasticizer notes that the material is "**Explosive when dry. Unstable.**" (Section 3.1 Emergency Overview).

The full list of hazards and other information for GAP-5527 Polyol and GAP-0700 Plasticizer can be found on the attached Safety Data Sheets, provided for GAR's reference and use.

Should you have any questions concerning this notice, please feel free to contact me

August 3, 2020  
Page 2

Sincerely,

Thompson Coburn LLP

A handwritten signature in black ink that reads "Joseph M. Kellmeyer". The signature is written in a cursive style with a large, stylized 'J' and 'K'.

By  
Joseph M. Kellmeyer  
Partner

Enclosures

cc: Division of Waste Management  
Madisonville Regional Office  
Attn: Curtis Scott  
625 Hospital Dr.  
Madisonville, KY